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From: Buchholz, Ken
Sent: Fri 1/22/2016 5:49:23 PM
Subject: FW: 01-21-16 Special Edition Clips - MO Holiday Flooding/EM-3374 Debris Task Force
[image007.emz](#)
[Special Edition Clips MO flooding 012116.docx](#)

Original Message
From: [redacted]
Sent: Friday, January 22, 2016 5:49 PM
To: [redacted]
Subject: [redacted]

From: Sturner, Barb [mailto:Barb.Sturner@fema.dhs.gov]
Sent: Thursday, January 21, 2016 11:28 AM
To: Parker, Michael <Michael.Parker5@fema.dhs.gov>; Donley, Jim
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Nelson <Nelson.Andrews@fema.dhs.gov>; Barron, Ben <ben.barron@fema.dhs.gov>; Adams,
Stephenie <Stephenie.Adams@fema.dhs.gov>
Subject: RE: 01-21-16 Special Edition Clips - MO Holiday Flooding/EM-3374 Debris Task Force

Original Message
From: [redacted]
Sent: Thursday, January 21, 2016 11:28 AM
To: [redacted]
Subject: [redacted]

With attachment for those who want that ...

Barb Sturner

External Affairs Specialist

FEMA Region VII | Kansas City, MO

BB: 816-783-3347

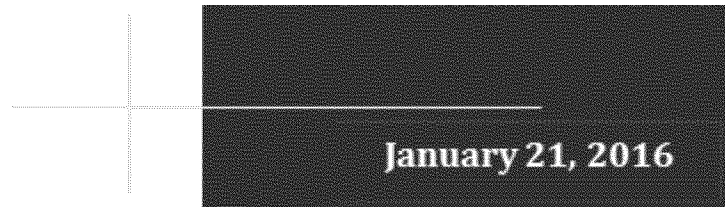
barb.sturner@fema.dhs.gov

From: Sturner, Barb

Sent: Thursday, January 21, 2016 11:26 AM

To: Parker, Mike ; Donley, Jim ; Englert, Melanie B Maj USAF NG MOANG (US); 'Shafer, Michelle M'; Chris Whitley; Dave Bryan; Jackson, Khaalis; Buchholz, Ken; Campbell, William; Box, Wayne; Tom Erickson; Bajon, Jon; Cappannari, Michael L; 'O'Connell, Mike'; David Gervino; Fast, Cory ; Walker, Adrian; Breeland, Lorra; Pickerel, Mike; Andrews, Nelson; Barron, Ben

Subject: 01-21-16 Special Edition Clips - MO Holiday Flooding/EM-3374 Debris Task Force



Special Edition Clips – MO Holiday Flooding EM-3374 Debris Task Force

Click Ctrl + Enter to jump from the hyperlinked headline to a story of interest

Clips for the Debris Task Force and the Missouri Holiday flooding event have been combined for today's news clips edition.

Analysis:

One story today re: debris pickup from St. Peters (St. Charles County) area incorrectly identifies Friday as the last day for debris pickup in that municipality. State PIO has reached out to media to correct. (The error is that the story quotes a state press release identifying the deadline, yet the state has not set a deadline at this time). Very interesting story comparing floods of 1982 and 2015. Metro east St. Louis levees apparently performed as designed, according to local levee officials.

USDA reps met in Springfield Wednesday to explain types of flood recovery available to landowners following the Christmas week floods. U.S. Geological Service will be installing a new flood gage in the city of Fenton to provide more accurate readings of the Meramec River levels.

Headlines:

Six ways the floods of 2015 and 1982 were surprisingly similar (St. Louis Public Radio)

Flooding wreaks havoc in St. Louis area (The Journal, Webster University, St. Louis)

St. Peters flood debris pickup ends Friday (Suburban Journals, St. Louis)

Metro-east levees perform as designed during December flood (Belleville (IL) News-Democrat)

USDA Meets with Local Flood Victims (KOLR-TV, Springfield, MO)

New flood gages installed in Fenton MO (KTVI-TV, St. Louis)

Stories:

Six ways the floods of 2015 and 1982 were surprisingly similar (St. Louis Public Radio)

Jan. 20, 2016

By Durrie Bouscaren

Many St. Louis-area residents were still enjoying a long weekend and the end of the Christmas holiday when the flood warnings first went out on Dec. 26.

Over the next days, the Mississippi, Missouri and Meramec rivers rose to dangerous heights at unprecedented speed in some areas. The water spilled over levees, put water treatment plants out of service, and swamped thousands of homes and businesses in riverside communities.

Then, almost a week later, the icy floodwaters were practically gone.



The rising Meramec broke the town of Pacific's level record by 8.5 inches in December 2015. Carolina Hidalgo | St. Louis Public Radio

Along the Meramec River just south of St. Louis, the flood surpassed heights not seen since December of 1982. In fact, that devastating flood 33 years ago — which killed six people in the St. Louis area and wiped out the town of Times Beach — poses some striking similarities to the one experienced just before New Year's.

Listen: Why the Flood of 1982 is strikingly similar to 2015

Link: <http://news.stlpublicradio.org/post/six-ways-floods-2015-and-1982-were-surprisingly-similar>

They were caused by a lot of rain in a concentrated area, not snowmelt

Severe winter floods are a rare occurrence in the Midwest. Spring and summer floods, like the Great Flood of 1993 on the Mississippi River, are often partially caused by excessive snowmelt from the prior winter.

The fact that sheer rainfall, concentrated in a few areas, created record-breaking floods in 1982 shows just how much water there was.

As in 2015, the unseasonably warm temperatures in November and December 1982 were also punctuated by above-average rainfall. Storms between Dec. 2 and 7 caused the first series of floods, which affected Missouri, Illinois and Arkansas.

5a. FLOODING in CENTRAL ILLINOIS

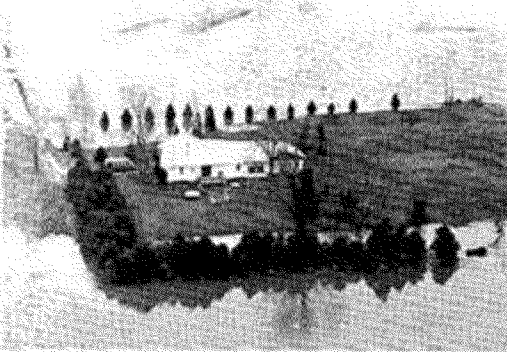
The pictures below are examples of flooding which occurred along the Vermillion River near Pontiac, Illinois. ---All photos from the Pontiac Daily Leader.



Looking west toward a trailer park along old US 66 from the partially submerged Pontiac Correctional Center.



Firemen plow through waters on West Reynolds Street in Pontiac.



This home east of Pontiac became an island of itself.



Part of IL Rt. 23 which was washed out when a dike broke. ---Photo by C. Kinas.

from a storm data report issued in December 1982 show the extent of flooding near Pontiac, Ill. *National Oceanic and Atmospheric Administration*

Photographs
Credit

At the National Weather Service offices in St. Louis, senior hydrologist Mark Fuchs found an old inter-agency report that had been prepared to discuss the flood of 1982 and its aftermath.

"I remember looking at this stuff and thinking, 'Wow. Wow, wow, wow,'" Fuchs said.

This latest flood surprised him; he said he hadn't expected to see a winter flood of that scale before he became an old man.

"In many respects, it was very similar," Fuchs said, as he reviewed the rainfall data. "Five to eight inches is a pretty good guesstimate of how much they had to trigger that

record flooding, not terribly unlike what we had a few days after Christmas.”

Though opinions differ on the effect regional development had on the flooded Meramec last year, Fuchs said Mother Nature had more to say in how high the river grew.

“In my mind, we had more rain without question across the Meramec Basin in this event. It was just a bigger, overall event,” Fuchs said.

The highest flood levels were measured on the lower end of the Meramec

The early December flood of 1982 broke records on the Meramec River. In Pacific, the water reached almost 18 feet above flood stage on Dec. 6. Gauges in Eureka recorded a level about 25 feet above flood stage—even higher than the flood of 1915, the worst on record.



The historic Opera House of Pacific sits among dozens of other homes and business on the south side of the city flooded by the Meramec River. *Credit Carolina Hidalgo | St. Louis Public Radio*

On Dec. 30, 2015, the rising Meramec broke Pacific’s record by 8.5 inches and hit 28 feet above flood stage in Eureka.

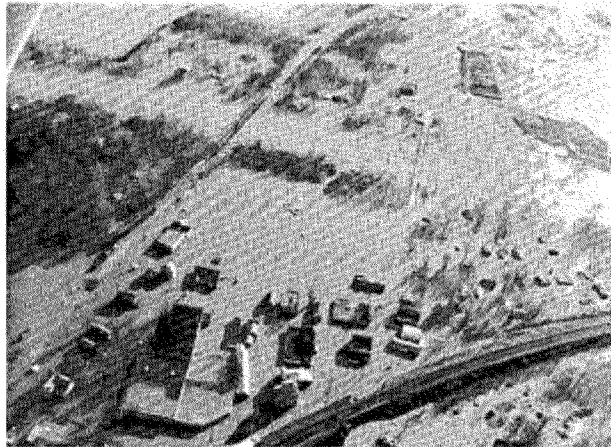
“The upper end of the Meramec—Steelville and Sullivan—this time around did not have record flooding. It was a big flood, no question, but just a good, major-to-moderate flood,” Fuchs said. “That was exactly what happened in 1982 as well.”

In the aftermath of the 2015 flood, hydrologists offered multiple perspectives as to why the Meramec broke the record so quickly: the region’s continuous conversion of

agricultural floodplain to runoff-prone subdivisions, climate change, and even simply a bad luck of the draw. Hydrogeology professor Bob Criss of Washington University in St. Louis hypothesized that the Valley Park levee itself pushed water at least a foot higher in Eureka and Arnold, and possibly further.

5b. MERAMEC RIVER FLOOD near
ST. LOUIS, MISSOURI

At right is pictured the small town of Valley Park, Mo. under floodwaters of the Meramec River southwest of St. Louis. Only 10 miles upstream is the town of Times Beach which was evacuated when the deadly chemical dioxin seeped into the floodwaters from waste heaps. ---Photo by Brian Smith, University of Chicago.



An aerial photograph of flooding in Valley Park is found in a NOAA Storm Data report in December of 1982. Credit National Oceanic and Atmospheric Administration

“The magnitude of the effect is clearly correlated with sites that have been most intensely developed,” Criss said. “We should quit rebuilding in these areas and start moving people out, because this phenomenon is going to continue to happen.”

He’s now crunching the data to test his theory. The Army Corps of Engineers disputed Criss’ claim, saying the \$50 million earthen levee around Valley Park was designed to inflate water levels by no more than four inches and for only seven miles upstream.

“Everything worked as designed. [The engineers] were extremely happy with how it performed, and it was a great success for us,” said Amanda Kruse, a spokesperson for the Corps.

They happened during an El Niño

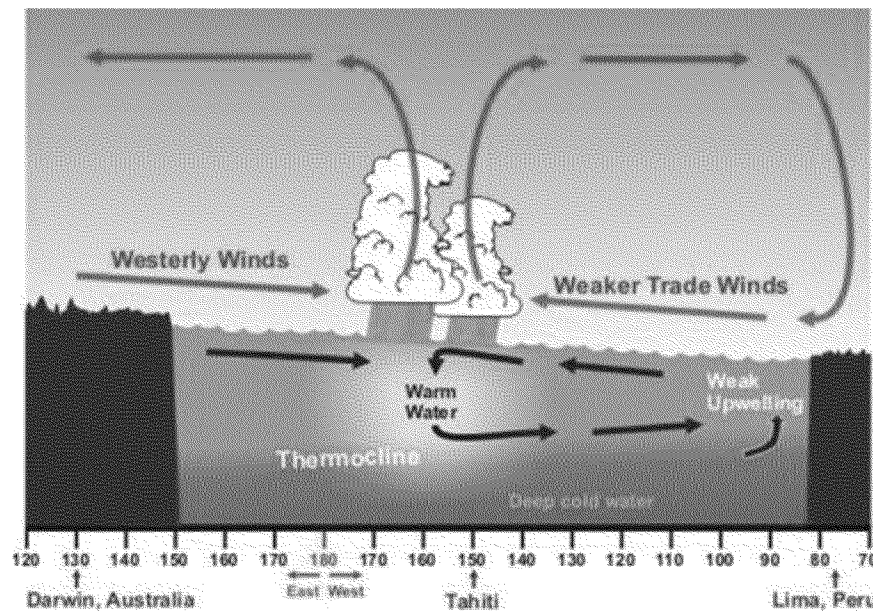
An El Niño is a tropical climate event that causes warmer weather in the Pacific Ocean. The effect sometimes reverberates across the climate of North America, causing warmer-than-average temperatures and wetter conditions in the Gulf Coast and Florida, but drier-than-average weather in the Ohio Valley and Pacific Northwest. (El Niño also has a “sister” that causes colder weather patterns, named La Niña.)

What does that mean for the Midwest? Scientists aren’t sure yet. Because there have been only five “strong” or “very strong” El Niño’s on record, there isn’t a whole lot of

data, said Fuchs, the hydrologist.

“Sometimes in a strong El Niño, we will have a wet December followed by a drier January and February. There’s other strong El Niño years on record where nothing happened extraordinarily at all, one way or the other,” Fuchs said. “But sometimes other climatic factors come into play.”

According to the Climate Prediction Center at the NWS, one of the biggest El Niño events recorded in the past century occurred in the last months of 2015. Similar fluctuations were recorded in 1997 and 1982.



A diagram details the impact of El Niño conditions in the Pacific Ocean. Credit National Oceanic and Atmospheric Administration

Water runoff near toxic sites raises concern

Nearly every riverside community damaged during the Meramec’s 1982 flood made a full recovery. The working-class town of Times Beach did not.

That’s because the flood exacerbated a looming environmental disaster: the town’s soil was contaminated with dioxin, a byproduct of Agent Orange. Unbeknownst to the people of Times Beach, the pollutant was mixed in oil, sold cheaply to a contractor, that was spread on dirt roads to keep the dust down, said environmental historian Dave Lobbig of the Missouri History Museum.



Times Beach, Mo., was severely damaged in the Meramec River flood of 1982. (This photograph was donated by Jim Stebbings to the State Historical Society of Missouri.) Credit Provided by the State Historical Society of Missouri

“It wasn’t proven to be there until right after the flood,” Lobbig said. “Animals were dying, people were developing rashes and stuff like that.”

The EPA ordered tests. The confirmation of dioxin in the soil came just before Christmas of 1982.

“The people of Times Beach found out, ‘Yes, indeed, we have this stuff in our soil,’ just as their homes and their whole environment had been flooded, and all this stuff had been spread around by the flood,” Lobbig said.

The combination of flood damage and contamination was too much for the small town of Times Beach, which was evacuated later that month. Homeowners eventually received the first federal buyouts for environmental contamination, and the town was bulldozed. The area has since been cleaned up and now exists as Route 66 State Park.

2015’s flood brought its own environmental scare. Residents in the Bridgeton area were alarmed when video footage showed rainwater runoff flowing over the West Lake Landfill Superfund site in north St. Louis County. The site is contaminated with radioactive waste from the Manhattan Project and is part of an ongoing cleanup process that has drawn the frustration of many residents. The runoff was collected by the Missouri Department of Natural Resources and sent to labs for testing, the Post-Dispatch reported.

Around ongoing cleanup efforts for low-dose, radioactive contamination along Coldwater Creek, the U.S. Army Corps of Engineers reported the floods were no cause for concern.

“All the stuff we’re finding now has some type of cover material on it, whether it be vegetation, or soil, asphalt, concrete, etc.,” Army Corps health physicist Jon Rankins told St. Louis Public Radio. “It’s not going to be going anywhere.”

The scope of the damage

According to historian Lobbig, the 1982 flooding along the Meramec killed six people, severely affected 3,000 residences, and totaled more than \$100 million in overall damages—the equivalent of \$245,944,041 today. Two major storms that December caused floods that killed 25 people in Missouri, Illinois, Arkansas, Louisiana, Mississippi and Tennessee.



Pacific resident Jodi Howard holds her daughter Brooklyn, 3, as they survey flood damage in December 2015. Credit Durrie Bouscaren | St. Louis Public Radio

The 2015 floods in Missouri and Illinois caused 25 confirmed deaths. Damage assessments are ongoing, but early geospatial estimates for the St. Louis region put the number of damaged structures (residences, businesses and public buildings) at 7,100. This time, the town of Valley Park was spared, due to a 44-foot levee built after the flood of 1982.

“Overall, I think we should be learning how to better live with our rivers, to live in accord with them,” Lobbig said.

People who had the least lost the most

Here’s something that tends to happen with every natural disaster: the people who lose

the most, who are least able to bounce back, are often the ones who had the least to begin with.



Jean Scott, left, sits with her sister Jeanette Eanes, right. Diana Bush is standing. All three spent the day at a temporary shelter set up by the Red Cross in Pacific. Credit Durrie Bouscaren | St. Louis Public Radio

In December 2015, multiple mobile home parks located on the floodplain were swamped along the Meramec, and also in Granite City and Pontoon Beach, Ill.

The swift-rising water forced raft rescues when those who had not evacuated could not escape—including Jean Scott, who this reporter met at a Red Cross shelter in Pacific.

“I’m not sure what’s going to happen. Our trailer will probably be condemned, and we’ve got nowhere to go,” Scott said.

For those without savings, waiting for damage reimbursements from FEMA will be a struggle. Some have missed work while dealing with the flood’s aftermath or are staying with family and friends while they clean out and rebuild their homes.

In that sense, all floods are alike.

What are your memories of the 1982 floods? Are there any connections we missed? Leave your thoughts and recollections in the comments.

Follow Durrie on Twitter: [@durrieB](https://twitter.com/durrieB).

Flooding wreaks havoc in St. Louis area (The Journal, Webster

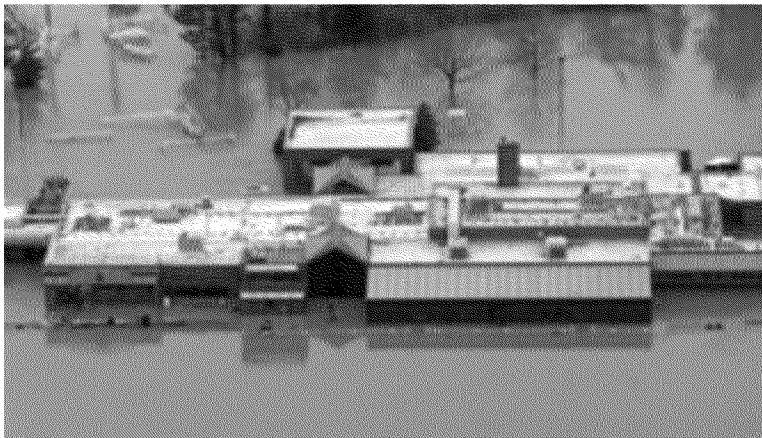
University, St. Louis)

January 20th, 2016

By Randi Hammor

Nearly half a million tons of debris had to be removed from homes and businesses after recent record flooding in Missouri. That is around 500,000 Mini Coopers worth of debris for comparison. The flooding caused at least 15 deaths in Missouri and around 7,100 damaged buildings, according to Missouri Governor Jay Nixon.

"This was a severe and extremely damaging flooding event, and we are continuing to help flood-affected communities recover and rebuild," Nixon said.



Flooding in Fenton damaged many local businesses and homes. Emily Van de Riet | The Journal

Webster University senior Dylan Stevens lives in one of the affected areas and had trouble getting to and from his home in Eureka. Stevens' brother Brandon had to evacuate his home when the floodwaters reached the basement.

"They were out of their home for a week and a half," Stevens said. "(Flooding) is a risk he's going to have to deal with for as long as he lives in Eureka."

Stevens said his brother had flood insurance because he lives in a rental property, but his parents' home did not.

"You just don't think about that," Stevens said. "People don't think it's going to happen to them. But it obviously can."

As of Jan. 14, MODOT listed 47 roads closed due to flooding. By comparison, 285 roads were closed when the rivers were cresting, according to Senator Claire McCaskill.

Moving forward, residents like Stevens hope emergency response will be faster and more efficient.

"It's weird to see where all your friends lived in highschool underwater," Stevens said. "[Missouri] didn't really do anything until after the fact. There needs to be more sandbagging and more evacuations more quickly."

Relief funds of \$1 million dollars were provided by the U.S. Transportation Secretary and Federal Highway Administration. The funds were provided to clean up and repair roads where it was needed most.

Nixon requested a federal emergency declaration Jan. 2 and as a result a curbside debris pickup program called "Operation Recovery" was implemented for those affected by the flooding.

Patrick Giblin, Director of Webster University's Public Relations said students had troubles with travel during the peak days of flooding, but no home damage has been reported. For more information about flooding and Operation Recovery, visit the official Missouri State Website at <http://www.mo.gov/flood-recovery>.

St. Peters flood debris pickup ends Friday (Suburban Journals, St. Louis)

Jan. 20, 2016

State disaster officials have announced the last day of debris pickup from the flooding and storms in late December in the city of St. Peters will be Jan. 22, according to a press release.

After this date, each request will only be handled by state emergency management officials on a case-by-case basis with no guarantee of service. If your debris has not been picked up yet, call the city of St. Peters at 636-970-1456 and they will forward that address information to state disaster officials.

This debris pickup is only for residences. The debris removal project is being coordinated by FEMA and SEMA in conjunction with the Missouri National Guard.

Debris should be set out at the curb in order to be picked up. It will also need to be separated per state of Missouri guidelines as directed at www.mo.gov/flood-recovery on

the state of Missouri website. This state flood debris pickup program is free.

For more information, visit www.mo.gov/flood-recovery.

Metro-east levees perform as designed during December flood (Belleville (IL) News-Democrat)

January 20, 2016 1:20 PM

By Joseph Bustos, jbustos@bnd.com

Highlights:

- Mississippi River reached 42.5 feet at St. Louis — a 38-year flood level
- Local flood prevention district has put \$44.6 million into levee upgrades
- Madison County estimates \$8 million in damages, St. Clair County \$2.1 million

Despite record flooding in parts of Missouri last month, levees along the Mississippi River, and the Carlyle Lake reservoir, performed as designed, resulting in significantly less damage in Illinois, the U.S. Army Corps of Engineers said.

There was an initial estimate of \$8 million in damage to public infrastructure in Madison County, mostly in Granite City, Alton and along the Great River Road north to Grafton, and \$2.1 million in damage in St. Clair County, according to emergency management officials in both counties.



Derik Holtmann dholtmann@bnd.com

An estimated 11 inches of rain fell in the St. Louis area from Dec. 26-28, causing widespread flooding on both sides of the river. Most of the heavy damage was found in the Meramec Valley in Missouri and the Alton area in Illinois.

St. Clair County Director of the Emergency Management Agency Herb Simmons said most of the damage in his county was to roads, pumping facilities, and through soil erosion.



Derik Holtmann dholtmann@bnd.com

Madison County Emergency Management Director Larry Ringering said that county's \$8 million initial damage assessment to the state also included costs for putting sandbags in downtown Alton, as well damage to roads and sewer systems.

There also were reports of cracked foundation, damage to appliances and water removal from basements in private residences that are not included in the public figures.

As water continues to recede, the counties continue to gather cost estimates, Ringering said.

These reported initial damage assessments will be used to determine whether a federal disaster area declaration will be made.

If there is \$18.1 million worth of damage across the state, the state emergency management agency could apply for federal assistance to help local governments. Each county would need to meet a threshold of \$3.56 times the county's population.

Initial assessments from counties were due to the state on Monday, but the Illinois Emergency Management Agency is reaching out to local agencies to verify and finalize numbers and make sure the state has the best information possible, said Patti Thompson, IEMA spokeswoman.

IEMA has until Feb. 12 to make a decision on whether to request federal assistance, Thompson said.

"All the levees performed as we expected up to a designed height. Russell Errett, hydraulic engineer for U.S. Army Corps of Engineers."

Federal Emergency Management Agency uses a formula to determine whether states and local governments can handle a disaster on their own.

Despite the damage caused by flooding on the Illinois side of the river, overall, the levees performed well.

The Mississippi River reached 42.5 feet — seven feet below the 1993 flood levels. The 42.5 feet represents a 38-year-flood, said Russell Errett a hydraulic engineer for the U.S. Army Corps of Engineers.

"All the levees performed as we expected up to a designed height," Errett said.

The river would have to reach 46.1 feet for it to be considered a 100-year flood.

In the Wood River Levee District, flood gates had to be closed on Dec. 27, which closed Illinois 3 in Hartford. District officials also closed flood gates in East Alton and put in place 1,000 sandbags to keep water back and protect businesses and property along the river, said Steve Kochan, president of the Wood River Levee District.

"If you don't get that stopped in East Alton, you will start having problems," Kochan said. "When you have 11 inches plus of rain, there's no place for it to go. It's all backed up."

Kochan, too, said there were no issues with levees during the latest flood event.

“Everything worked as planned,” he said.

Walter Greathouse III, the operations superintendent for the Metro-East Sanitary District, said the district had to start running pumps to move water in the middle of December. Pumping operations ended on Wednesday, he added.

“It was a crazy amount of water,” said Greathouse, son of the late Walter “Shang” Greathouse, who headed the district for decades.

Greathouse said he had never seen flooding on both sides of the levees at the same time.

\$44.6 million – Amount of work performed by the Southwestern Illinois Flood Prevention District Council to bring levees to a 100-year flood level

\$71.6 million – Total amount of work planned by the Southwestern Illinois Flood Prevention District Council to bring levees to a 100-year flood level

The sanitary district closed flood gates at Triple Lakes Road in Cahokia and one by the Casino Queen. The gates were then sealed with plastic and sandbags to prevent water from seeping in.

“It was very good, considering where we could have been,” Greathouse said.
“Everything worked very well.”

In recent years, the Southwestern Illinois Flood Prevention District Council has been working to bring the area’s levees up to the 100-year flood prevention level, and eventually will work toward a 500-year flood prevention level.

In 2009, to help pay for levee restoration costs, St. Clair, Madison and Monroe counties instituted a quarter-cent sales tax, which brings in about \$11 million a year.

Restoring the levees to the 100-year flood level allows them to be accredited by FEMA and avoids higher flood insurance rates for private property owners. The Army Corps of Engineers also was authorized to increase the levee protection level to the 500-year flood level.

Work on bringing the levees up to the 100-year-flood protection level is scheduled to be completed by September.

The flood prevention district has completed \$44.6 million worth of work out of a total \$71.6 million project. Work includes putting in relief wells, deep cut off walls and clay caps, among other things over nine separate projects.

So far two of the nine projects have been completed and seven remain in progress, said Chuck Etwert, chief supervisor of construction and the works for the levee district. Work had to be put on hold for a few weeks last month because of the high water levels.

Bringing levees up to the 100-year level is on the Southwestern Illinois Flood Prevention District's dime.

"What we're doing is protecting the area from the Mississippi River," Etwert said.

Flooding concerns weren't just along the Mississippi River.

Errett, of the corps of engineers, said the corps had the challenge of managing flood waters in Shelbyville and Carlyle lakes. The corps was able to be aggressive in the amount of water it held in the reservoirs, and was able to hold back a lot more water than it does normally, Errett said.

However, the rising reservoir closed some roads in nearby Eldon Hazlett State Park, closing the park for a time.

By contrast, there are no flood control reservoirs along the Meramec River in Missouri and "whatever (rain) fell went into the streams and rivers," Errett said.

In the 1970s, voters rejected a plan to dam up the Meramec River at Sullivan, Mo., which would be created a man-made reservoir to be used for recreation and flood control.

Now that the crest has passed, the corps will be doing a controlled release of water from the storage basins, which Errett said would take "quite a while" to complete.

The winter drawdown is expected to last until mid- to late March, as it will take a couple of months to evacuate the water when assuming normal rainfall, he said.

Errett added there are some low-lying areas and crop land that typically flood during the winter and still have water on them right now, but no homes are flooded.

"They will be flooded for much longer than they normally do," Errett said.

Because of the wet winter, Errett said he expects a wet spring and summer.

As the waters come down, levee workers are assessing damages or wear and tear done to levees from the flood, and are working to get them repaired for the spring flood season.

“We want to expedite repairs to damage that happened so the levees are prepared for spring flood season,” he said.

Joseph Bustos: [618-239-2451](tel:618-239-2451), [@JoeBReporter](https://twitter.com/JoeBReporter)

What is a levee?

Levees are usually made of earth. The natural movement of a body of water pushes sediment to the side, creating a natural levee. The banks of a river are often slightly elevated from the river bed.

The banks form levees made of sediment, silt, and other materials pushed aside by the flowing water. Levees are usually parallel to the way the river flows, so levees can help direct the flow of the river.

Source: National Geographic Society

USDA Meets with Local Flood Victims (KOLR-TV, Springfield, MO)

Published 01/21 2016 07:38AM

Updated 01/21 2016 07:55AM

SPRINGFIELD, Mo. -- Flood victims in Missouri are seeing more help and getting answers to their questions about assistance for recovery.

Representatives from the U.S. Department of Agriculture met in Springfield Wednesday to explain the types of flood-recovery available to landowners following the Christmas week floods across the state.



The federal programs offered could assist those whose property sustained damages late last year.

Clean up will mostly focus on removing debris and sediment from streams and creeks, as well as repairing embankments to prevent erosion.

"Not only did we get all this flooding with all these damages, but also if we were to get additional flooding, especially with all the spring rain, we need to go ahead and make repairs now otherwise it could get a lot worse," said J.R. Flores of the Natural Resources Conservation Service.

A meeting was also held in Rolla Wednesday.

There is a final USDA outreach meeting Thursday in Union, Missouri.

New flood gages installed in Fenton MO (KTVI-TV, St. Louis)

Posted 11:38 pm, January 20, 2016

By Chris Higgins

SOUTH ST. LOUIS COUNTY, MO (KTVI) - The United States Geological Survey is teaming up with the City of Fenton and MSD to install a new river monitoring gage on the Meramec River. This gage will provide, for the first time, an exact measurement on the Meramec at Fenton. No longer will they have to rely on readings from Valley Park and Arnold, the next two closest gages.

Paul Rydlund is a supervising hydrologist with USGS. He asked us to join him for an

exclusive look as his team installed the gage late last week.

“This is a non-contact water level sensor. What is inside that box...essentially is a sensor that transmits high frequency radio waves and those high frequency radio waves are touching down to the water surface and they are able to get a distance. As the water begins to increase...as the river starts to go up..then that distance decreases and translates to a water level,” says Rydlund.

The new gage brings the total number of gages in Missouri up to 265. The new Fenton gage is located about ¼ mile from the MSD plant that flooded last month. That is one of the reasons the City of Fenton and MSD partnered with the [USGS](#) to get the new gage installed.

Rydlund says most of their projects involve some sort of local-federal partnership.

“80% of our budget is by local municipalities and other state and federal folks that contribute,” says Rydlund.

The benefits of adding a gage here are many fold. Rydlund says it will not only improve river monitoring and National Weather Service forecasts, it will also help the [USGS](#) improve flood inundation mapping which will then help communities like Fenton better estimate the impacts of future major flooding.

The cost for a unit like this starts at about \$5,000 but goes up quickly depending on the complexity of the installation.

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